

## CLAIMS

1. A heart rate measuring device to be attached around a user's hand, the device comprising:

attaching means which are fixed to the measuring unit;

an inner surface arranged to be in contact with the skin of the hand to which the device is attached;

an outer surface, i.e. a surface other than the inner surface;

an electrically conductive inner structure provided on the inner surface of the measuring device and functioning as an electrode for a contact with the skin of the hand to which the device is attached;

an electrically conductive outer structure functioning as an electrode for a contact with the user's other hand and electrically isolated from the electrically conductive inner structure;

a measuring unit to which the electrically conductive outer structure and inner structure are connected for heart rate measurement, wherein

the electrically conductive outer structure of the measuring device extends at least to opposite sides of the hand to which the device is attached; the electrically conductive outer structure comprises at least one electrode on the outer surface of the measuring device, on opposite sides of the hand to which the measuring device is attached, which at least one electrode the user is to touch with separate fingers of his/her other hand from opposite directions of the hand to which the device is attached; and

the at least one electrode is connected to the measuring unit with a wire inside the wristband.

2. A measuring device according to claim 1, wherein the electrically conductive outer structure forms a uniform electrode on the outer surface of the measuring device, which electrode the user is to touch with separate fingers of his/her other hand at least from opposite directions in relation to the hand to which the device is attached.

3. A measuring device according to claim 1, wherein the electrically conductive outer structure forms a uniform electrode extending on part of the outer surface of the measuring device to opposite sides of the hand to which the device is attached, which electrode the user is to touch with separate fingers of his/her other hand at least from opposite directions in relation to the hand to which the device is attached.

4. A measuring device according to claim 1, wherein the electrically conductive outer structure comprises at least two electrodes which are connected together with the wire inside the wristband.

5. A measuring device according to claim 1, wherein the electrically conductive outer structure comprises two electrodes, which are on different sides of the hand to which the device is attached.

6. A measuring device according to claim 1, wherein the electrically conductive inner structure comprises at least two electrodes on the inner surface of the measuring device and on different sides of the hand to which the device is attached.

7. A measuring device according to claim 1, wherein the electrically conductive outer structure is made of electrically conductive plastic.

8. A measuring device according to claim 1, wherein the electrically conductive outer structure is made of electrically conductive metal.

9. A method for manufacturing a heart rate measuring device to be attached around a user's hand with attaching means which are fixed to the measuring unit; the method comprising:

providing an electrically conductive inner structure on an inner surface of the measuring device, the inner surface being in contact with the skin of the hand to which the device is attached and at least part of the electrically conductive inner structure being meant to function as an electrode for the skin contact with the hand to which the device is attached;

providing an electrically conductive outer structure on an outer surface of the measuring device to provide an electrode for a contact with the user's other hand, the electrically conductive outer structure being electrically isolated from the electrically conductive inner structure, the outer surface referring to a measuring device surface other than the inner surface;

providing a measuring unit with signal processing means; and

connecting the electrically conductive outer structure and inner structure to the signal processing means of the measuring unit for heart rate measurement, the method further comprising:

producing at least one electrode of the electrically conductive outer structure on the outer surface of the measuring device, on opposite sides of the hand to which the device is attached; and

connecting the at least one electrode to the measuring unit with a wire inside the wristband.

10. A method for measuring heart rate, in which method a measuring device is attached around a user's hand, the method comprising:

bringing the user's hand to which the measuring device is attached into contact with an electrically conductive inner structure provided on an inner surface of the measuring device that sets against the skin of the hand to which the device is attached;

bringing the user's other hand into contact with the device as the user touches with his/her other hand an electrically conductive outer structure provided on the outer surface of the measuring device on the hand to which it is attached, the outer surface referring to a measuring device surface other than the inner surface; and

connecting heart rate from the separate hands of the user via the electrically conductive outer structure and inner structure to the measuring unit for heart rate measurement, the method further comprising:

bringing the user's other hand into contact with the device by having the user touch with the fingers of his/her other hand at least one electrode of the electrically conductive outer structure on the outer surface of the measuring device and on opposite sides of the hand to which the device is attached, the electrode being connected to the measuring unit with a wire inside the wristband.